

KIC 009540847

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
009540847-01	OBS	No	9.571078	135.448284	32.9	31.390	7.6	9.7	1.35	6651	0.85	357.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009540847-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

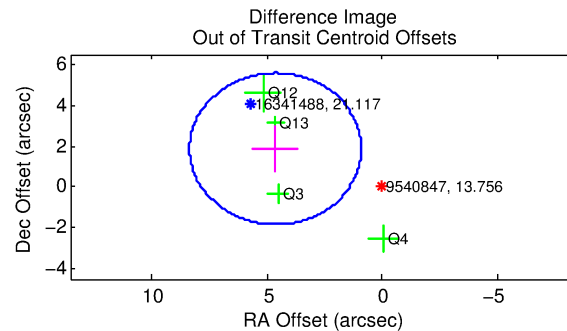
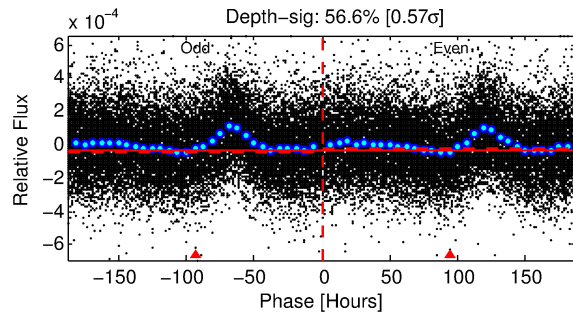
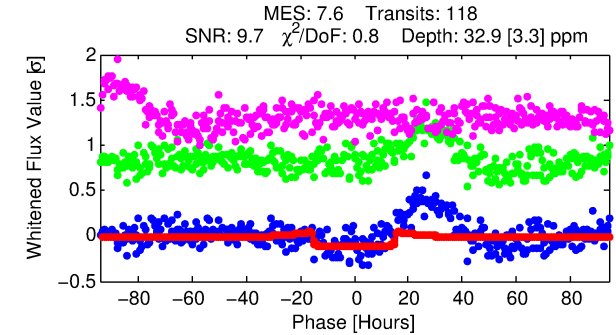
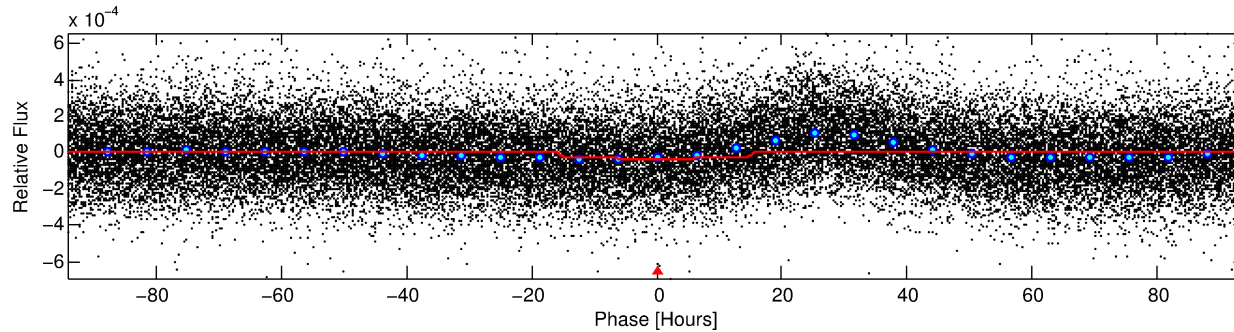
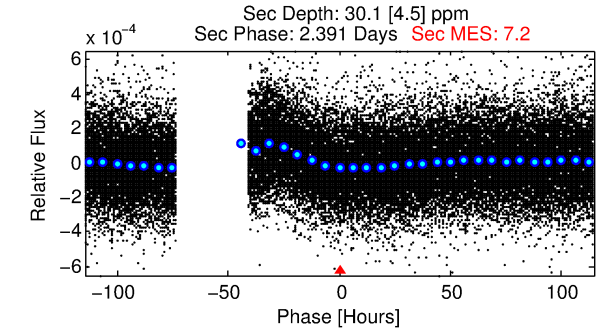
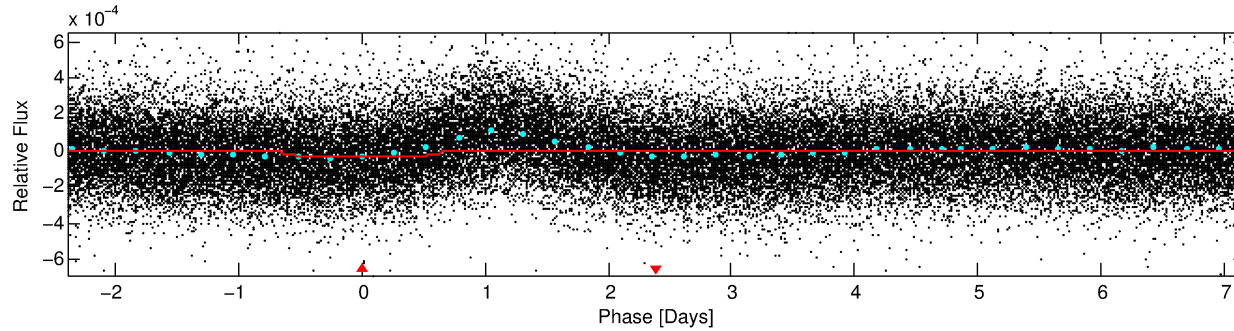
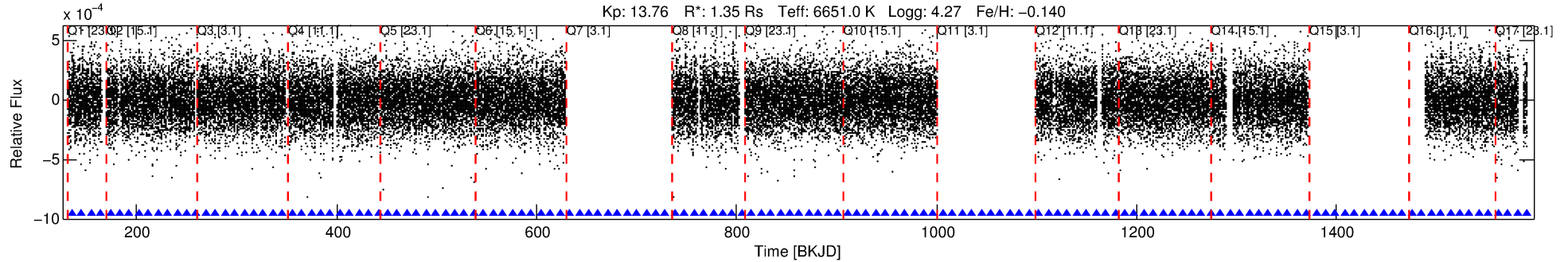
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009540847-01

No Significant Match Found

DV One-Page Summary

KIC: 9540847 Candidate: 1 of 1 Period: 9.571 d



DV Fit Results:

Period = 9.57108 [0.00029] d
Epoch = 135.4483 [0.0229] BKJD
Rp/R* = 0.0058 [0.0008]
a/R* = 1.72 [0.86]
b = 0.78 [0.38]
Seff = 357.92 [143.05]
Teq = 1109 [111] K
Rp = 0.85 [0.30] Re
a = 0.0948 [0.0252] AU
Ag = 205.83 [101.99] [2.01σ]
Teffp = 6495 [565] K [9.35σ]

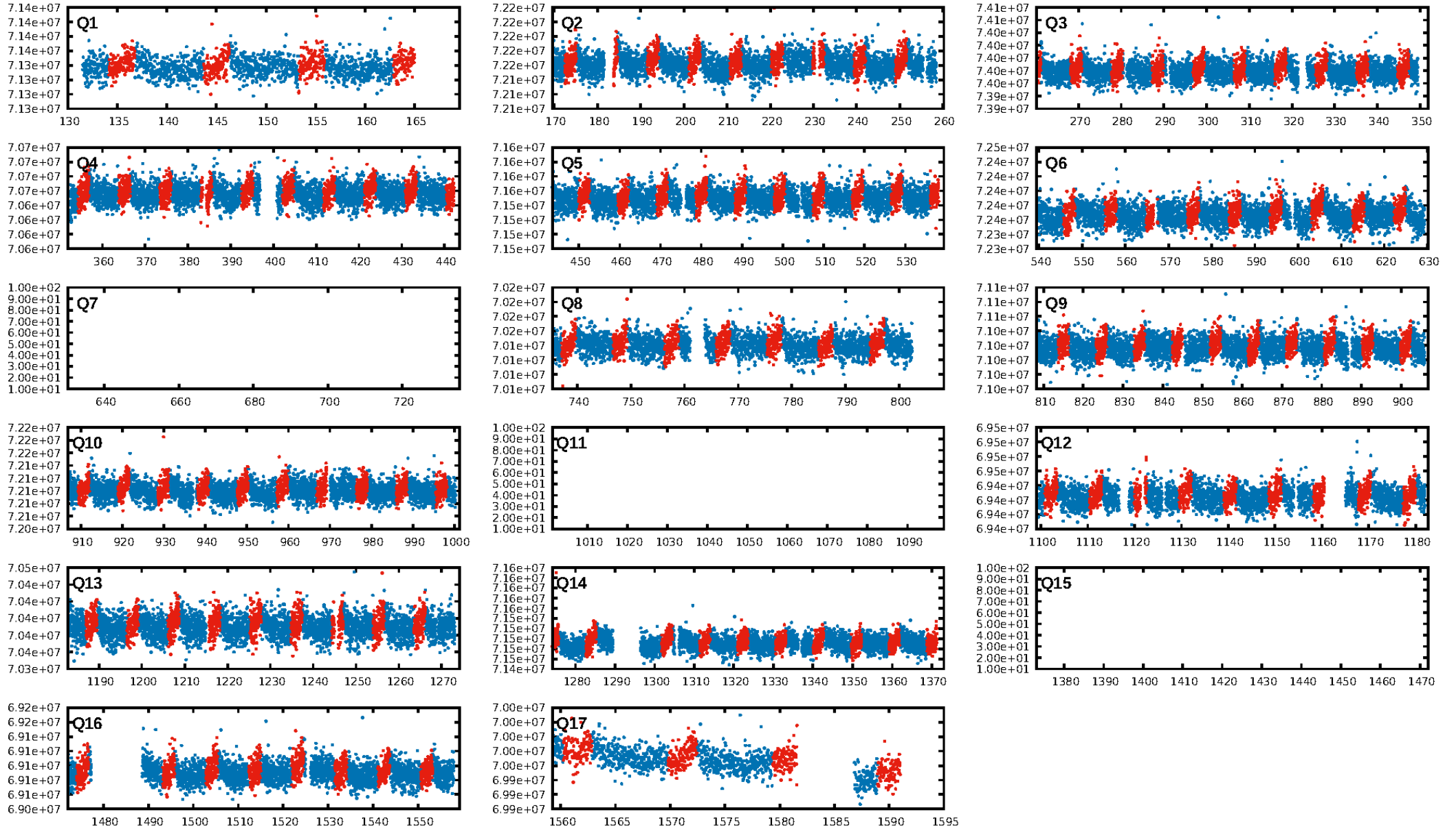
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.28e-16
RollingBand-fgt: 1.00 [110/110]
GhostDiagnostic-chr: -1.361
Centroid-sig: 39.4%
Centroid-so: 1.232 arcsec [1.15σ]
OotOffset-rm: 4.995 arcsec [4.04σ]
KicOffset-rm: 5.046 arcsec [3.43σ]
OotOffset-st: 0/1/2/1 [4]
KicOffset-st: 0/1/2/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [14/14]

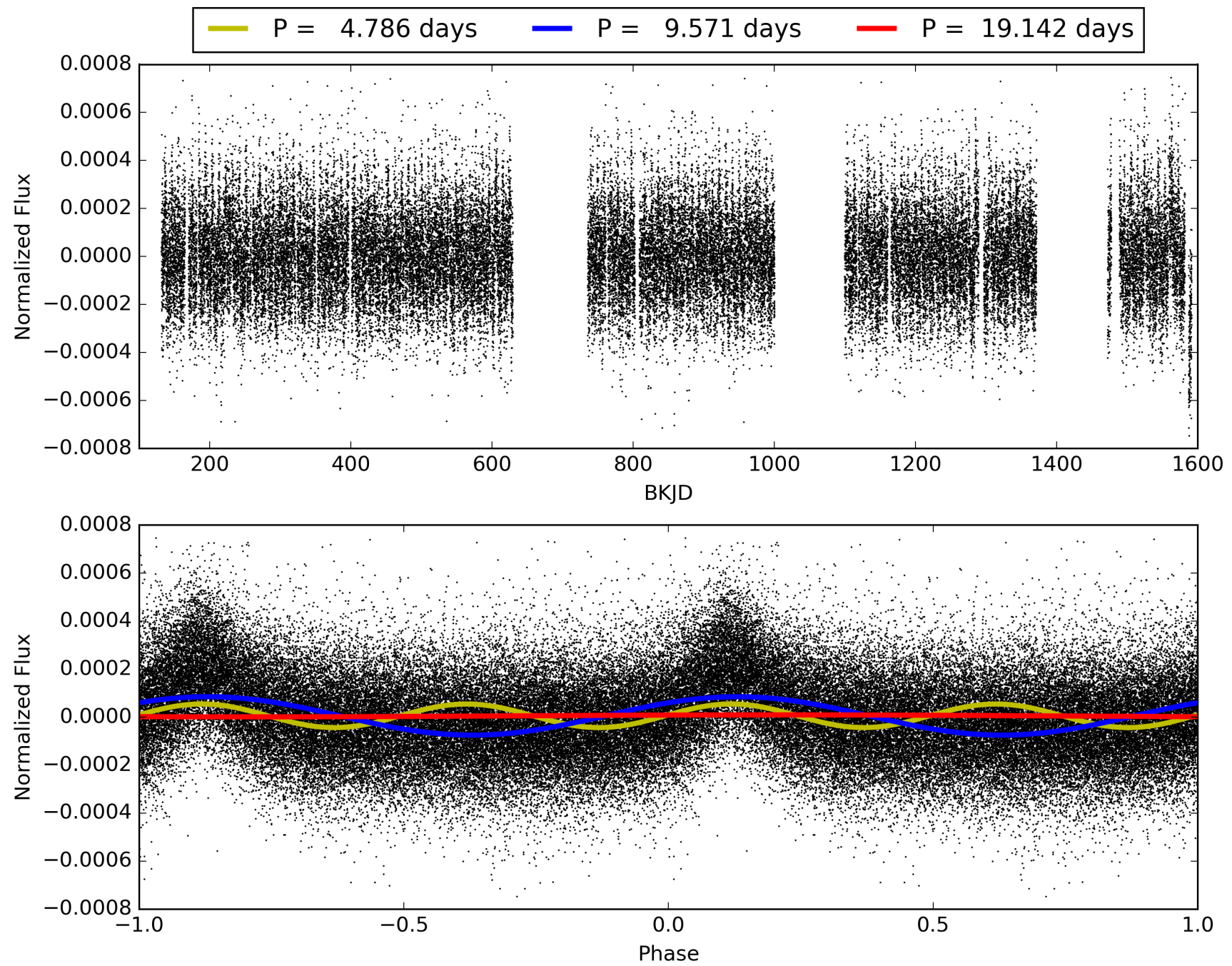
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:04:26 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009540847-01, PDC Light Curves

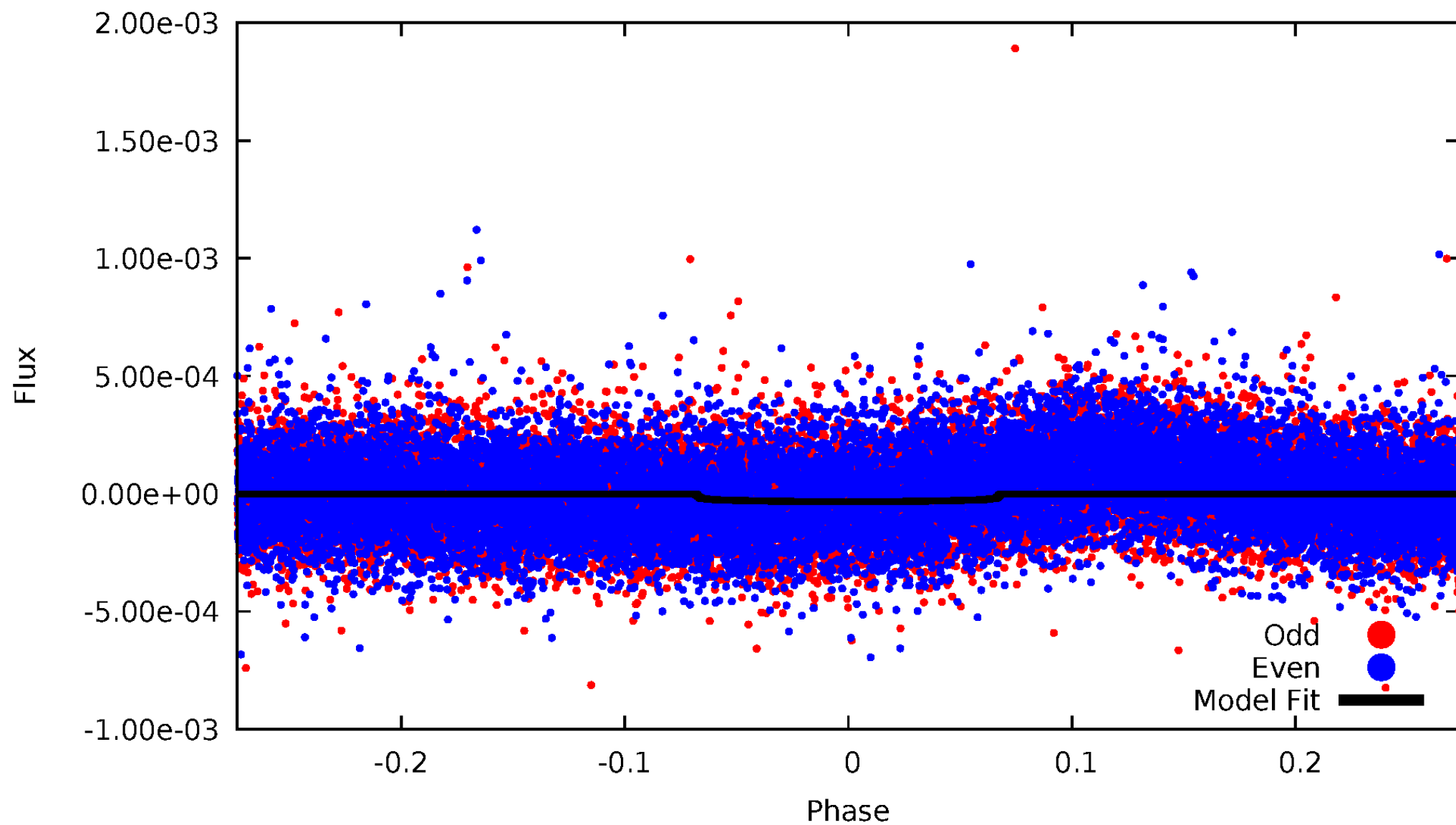


TCE 009540847-01



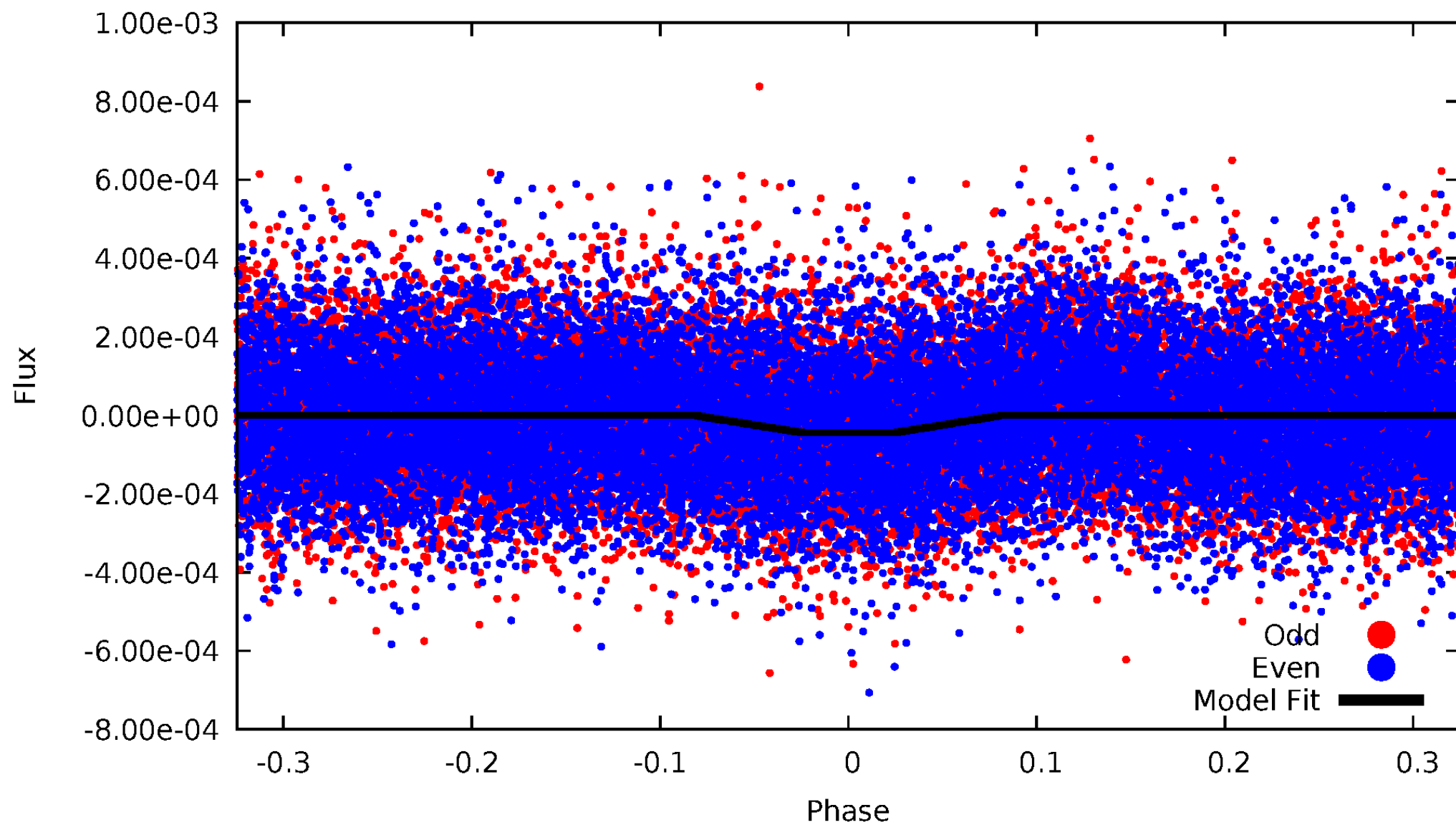
DV Odd/Even

TCE 009540847-01



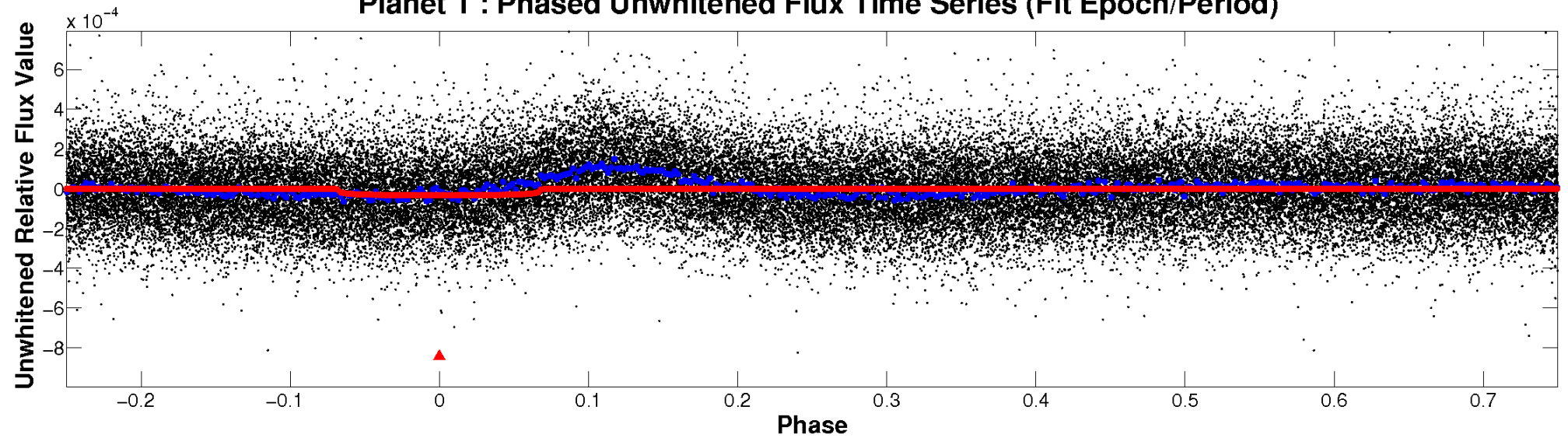
ALT Odd/Even

TCE 009540847-01

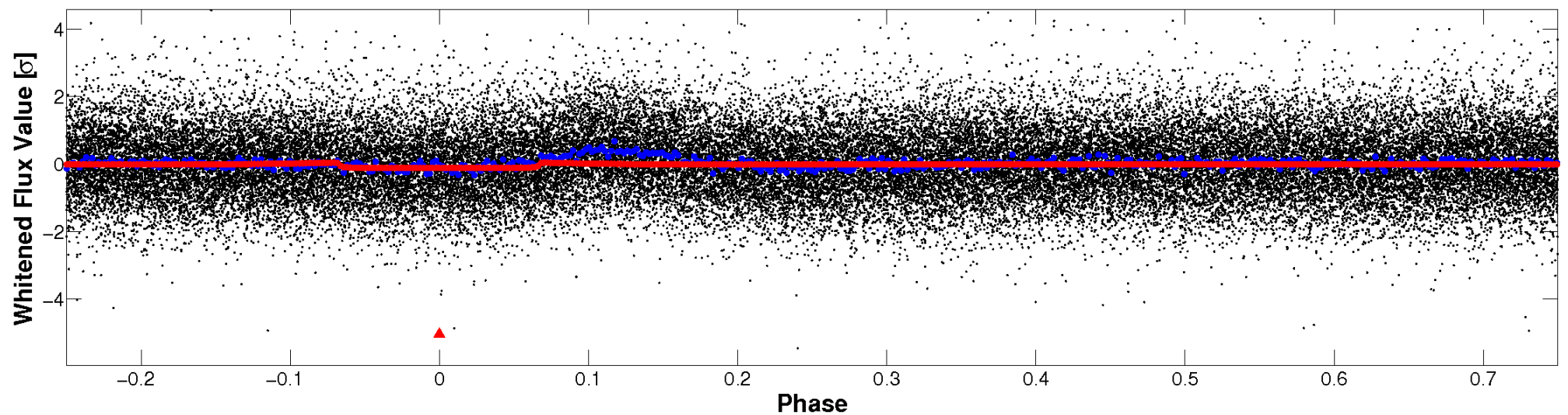


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

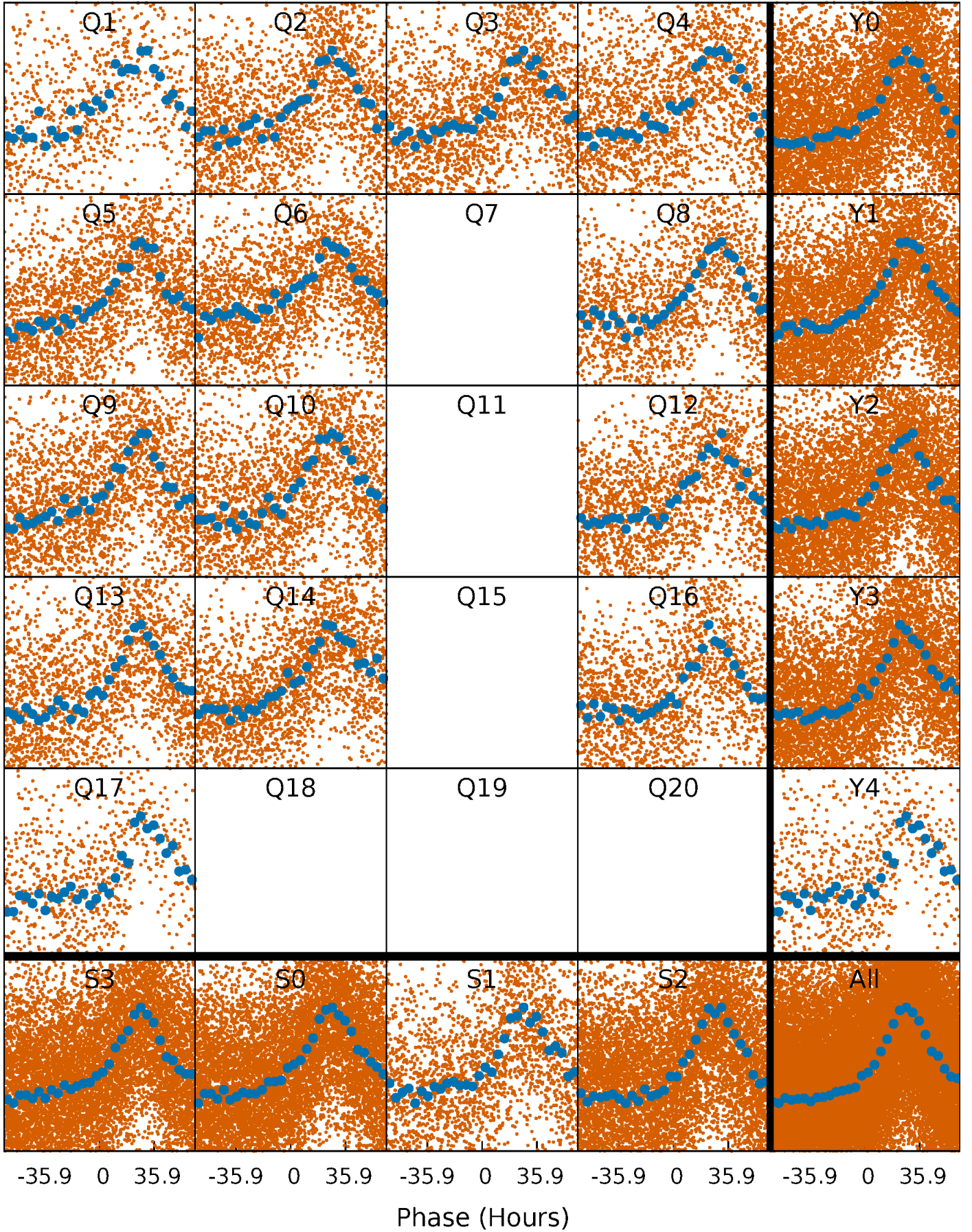


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



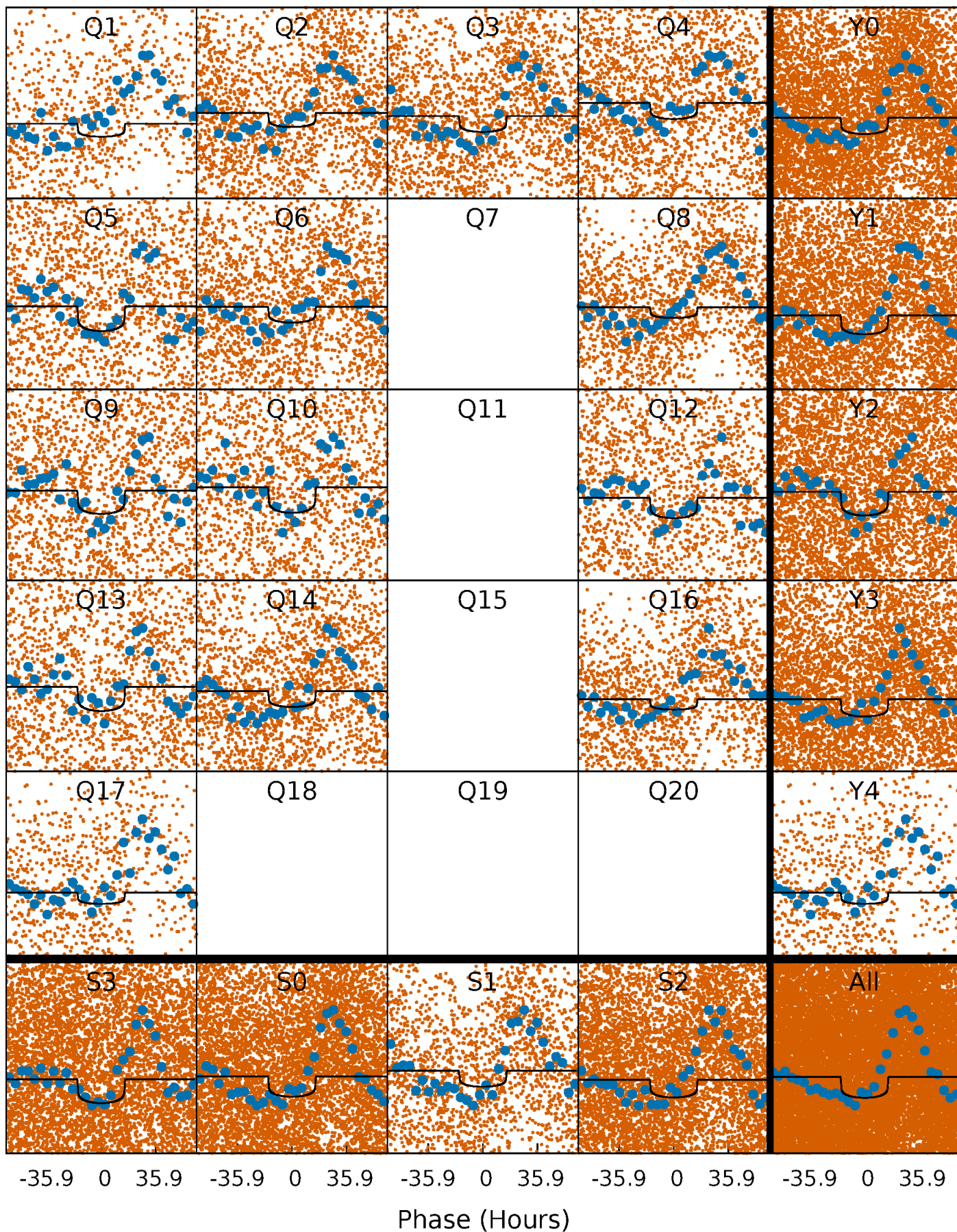
PDC Quarter-Phased Transit Curves

TCE 009540847-01 P= 9.571078 Days $T_0=135.448284$ (BKJD)



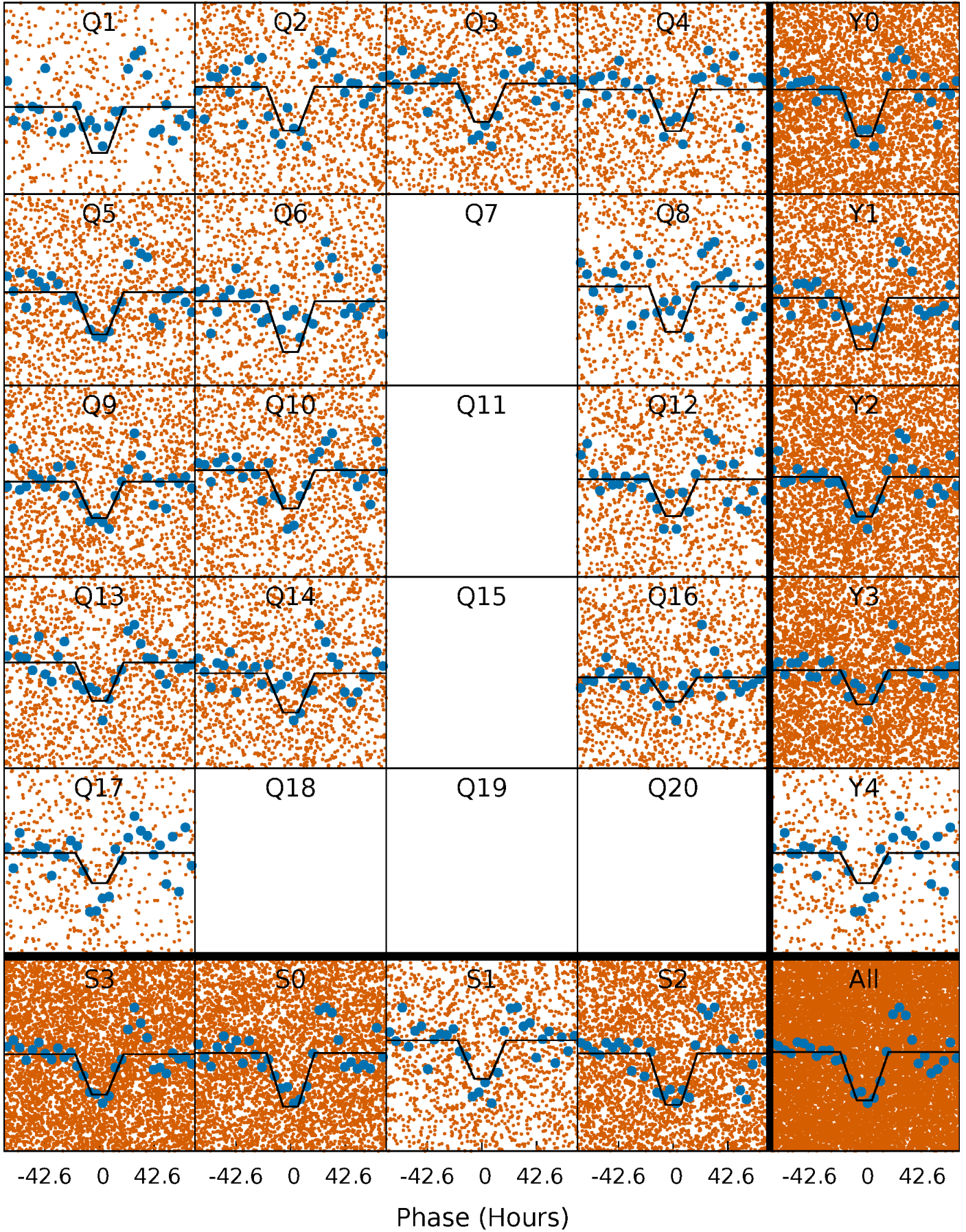
DV Quarter-Phased Transit Curves

TCE 009540847-01 P= 9.571078 Days $T_0=135.448284$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

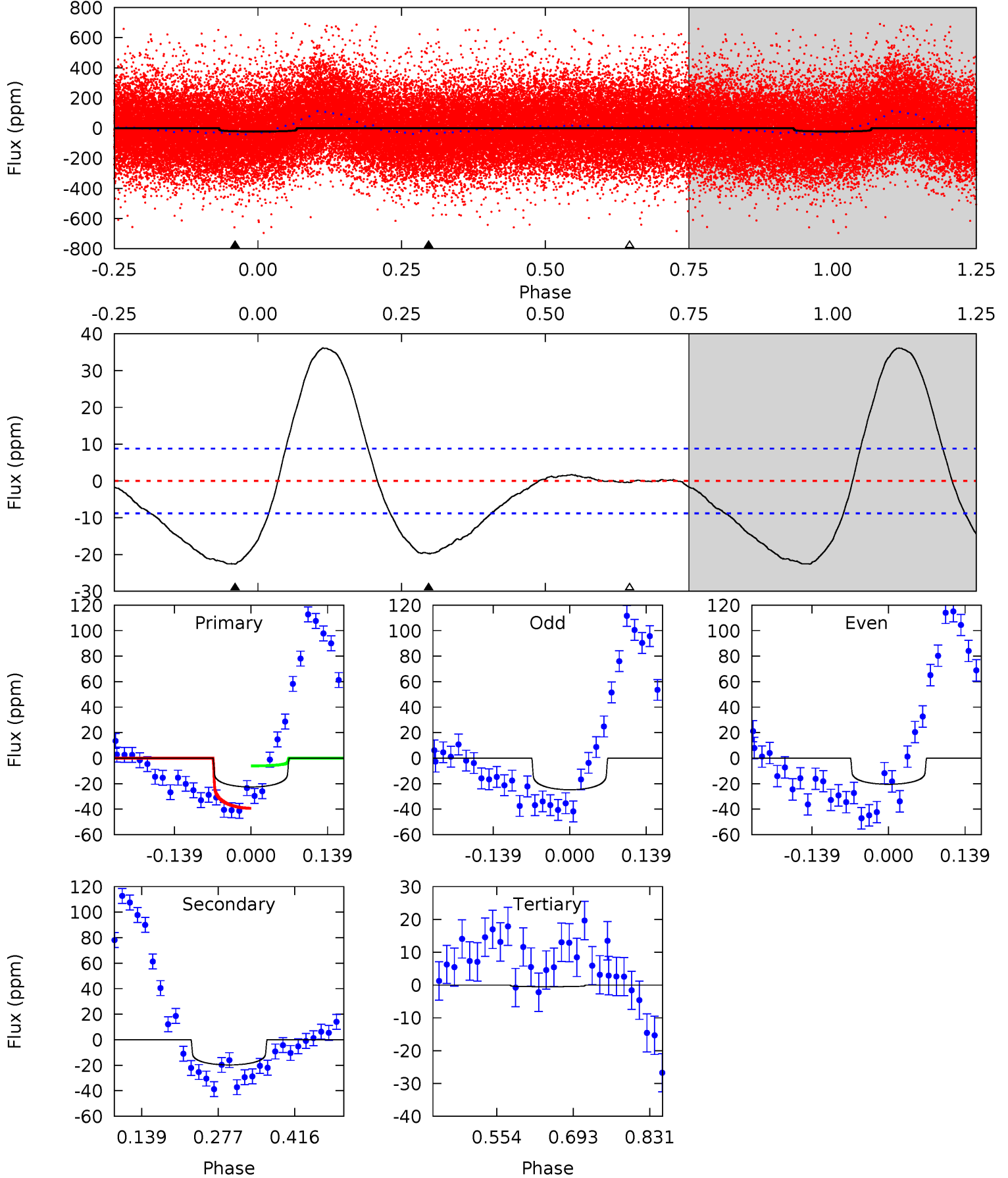
TCE 009540847-01 P= 9.571250 Days $T_0=135.430532$ (BKJD)



DV Model-Shift Uniqueness Test

009540847-01, P = 9.571078 Days, E = 125.877206 Days

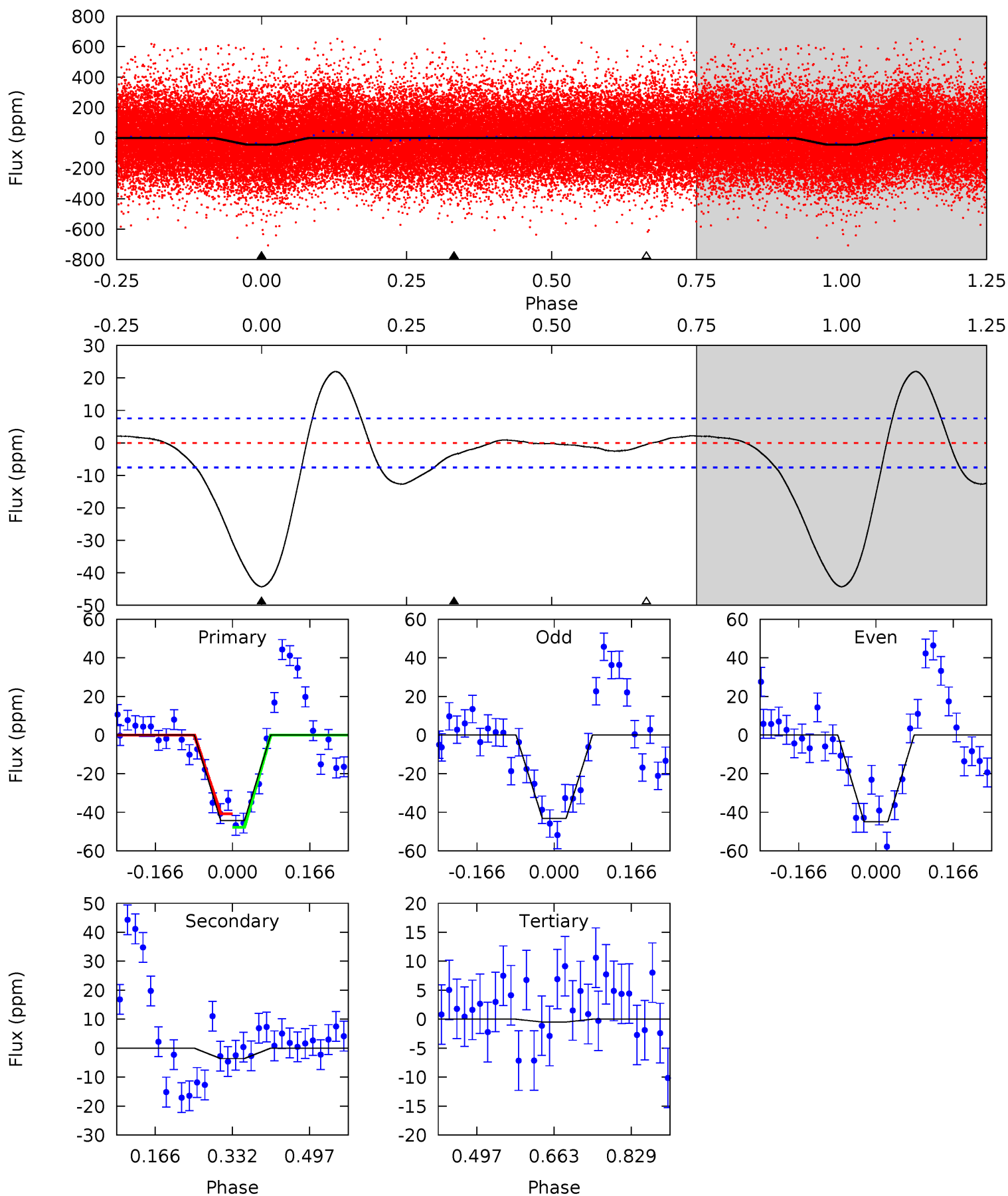
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	10.1	0.25	0	4.50	1.48	6.26	11.3	11.6	9.85	10.1	1.10	1.05	0.62	8.40



Alt Model-Shift Uniqueness Test

009540847-01, P = 9.571250 Days, E = 125.859282 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.0	2.12	0.29	0	4.46	1.39	0.93	25.7	26.0	1.83	2.12	0.49	1.04	0.33	2.03



Stellar Parameters For KIC 009540847

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6651^{+161}_{-221}	$4.268^{+0.108}_{-0.201}$	$-0.140^{+0.250}_{-0.300}$	$1.355^{+0.440}_{-0.237}$	$1.247^{+0.187}_{-0.187}$	$0.707^{+0.354}_{-0.376}$
	+2%/-3%	+3%/-5%	+179%/-214%	+32%/-17%	+15%/-15%	+50%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009540847-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-20 ± 2	$0.87^{+0.19}_{-0.15}$	1570^{+121}_{-92}	5822^{+459}_{-413}	126^{+58}_{-41}
Alt.	-4 ± 2	$1.01^{+0.22}_{-0.17}$	1567^{+123}_{-88}	3886^{+333}_{-415}	17^{+11}_{-9}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

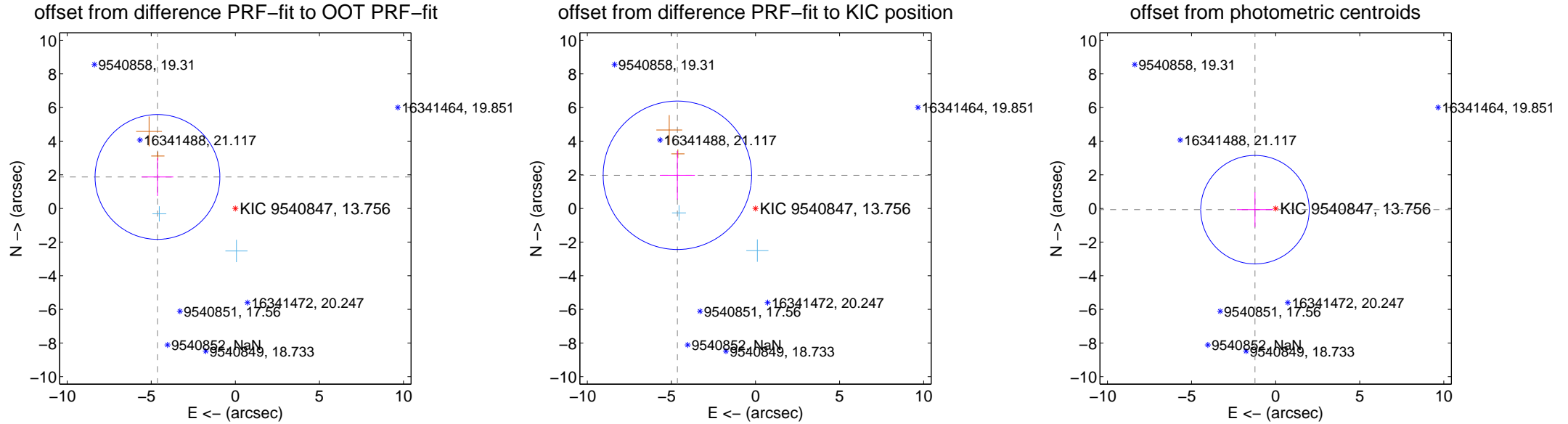
DV Centroid Data

Supplemental centroid analysis for 009540847-01. Kepler magnitude: 13.76. Transit SNR 9.72

There are 2 quarters with good PRF difference image offsets

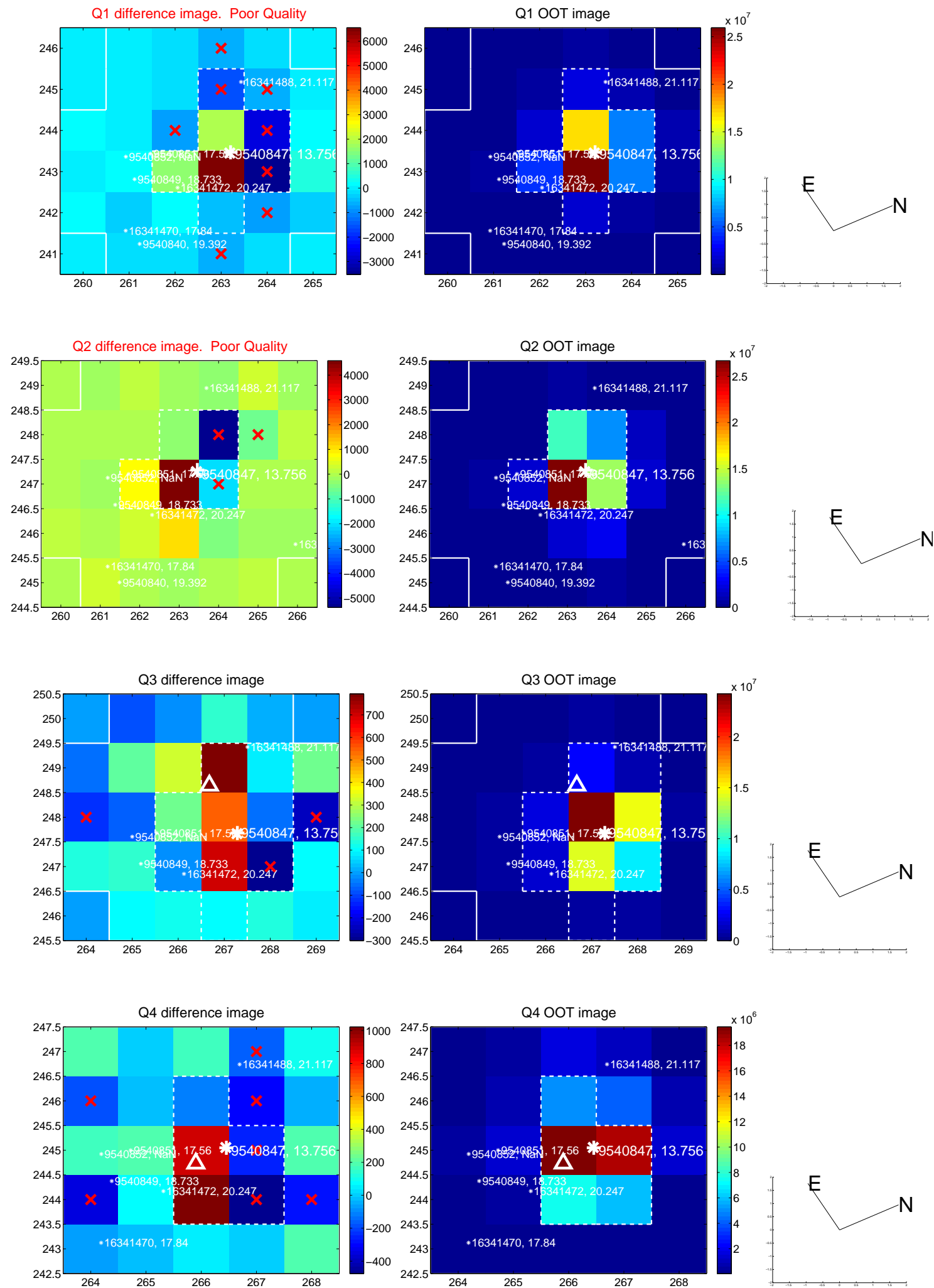
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.995 ± 1.237	4.04	4.630 ± 0.944	1.873 ± 1.136
PRF-fit source offset from KIC position	5.046 ± 1.471	3.43	4.645 ± 1.043	1.972 ± 1.442
photometric centroid source offset	1.23 ± 1.08	1.15	1.23 ± 1.08	-0.07 ± 1.03

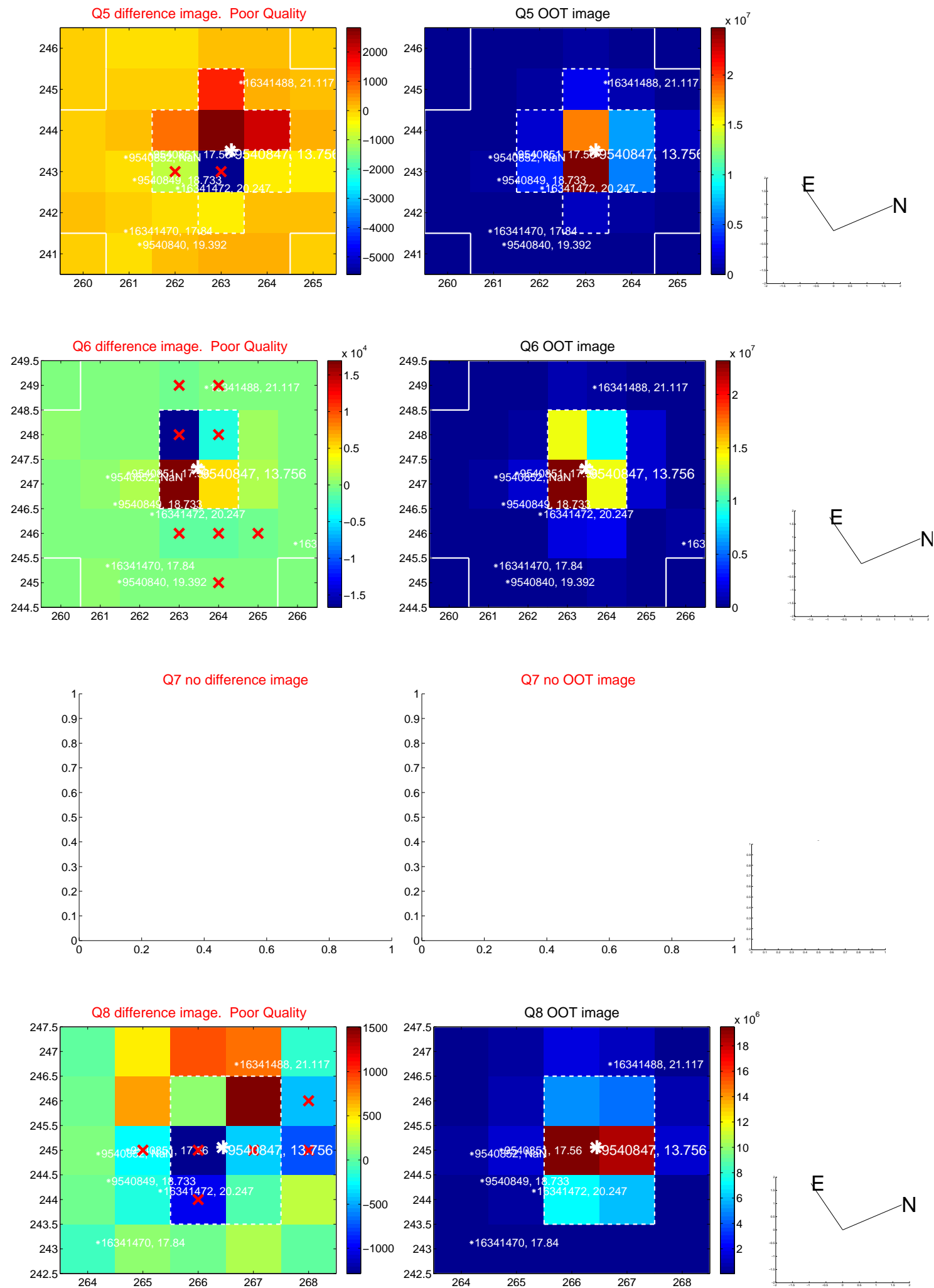


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

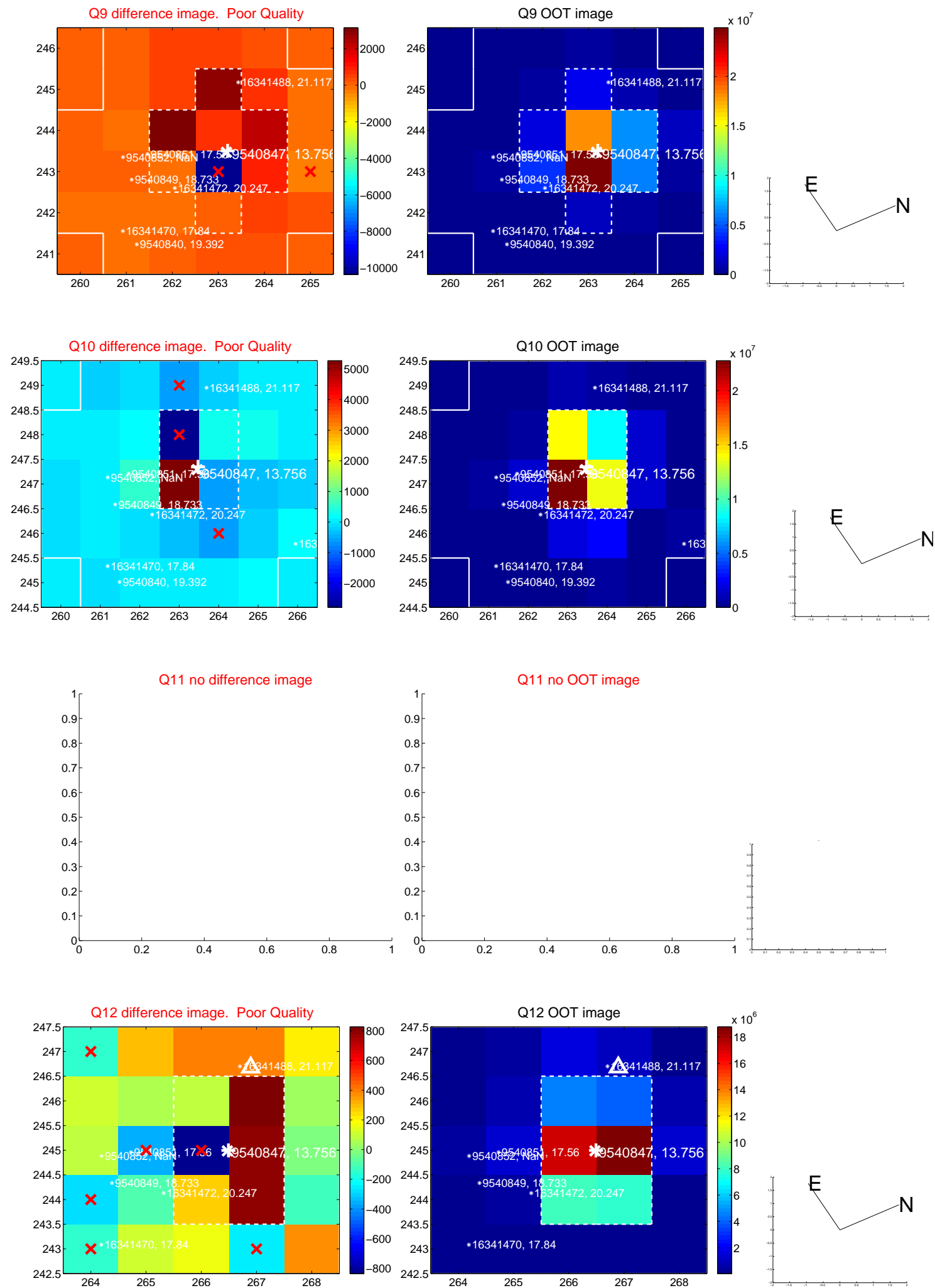
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



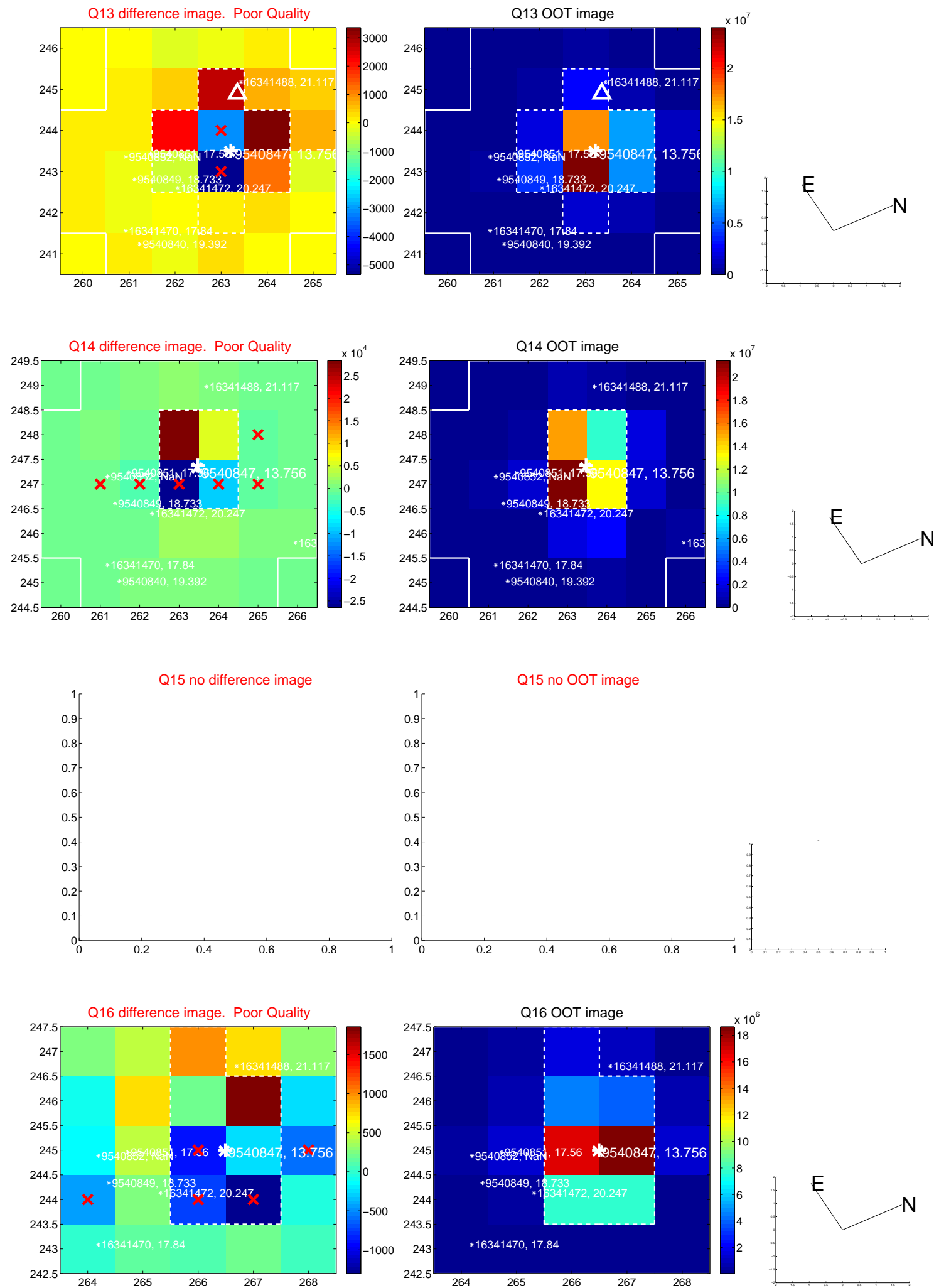
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



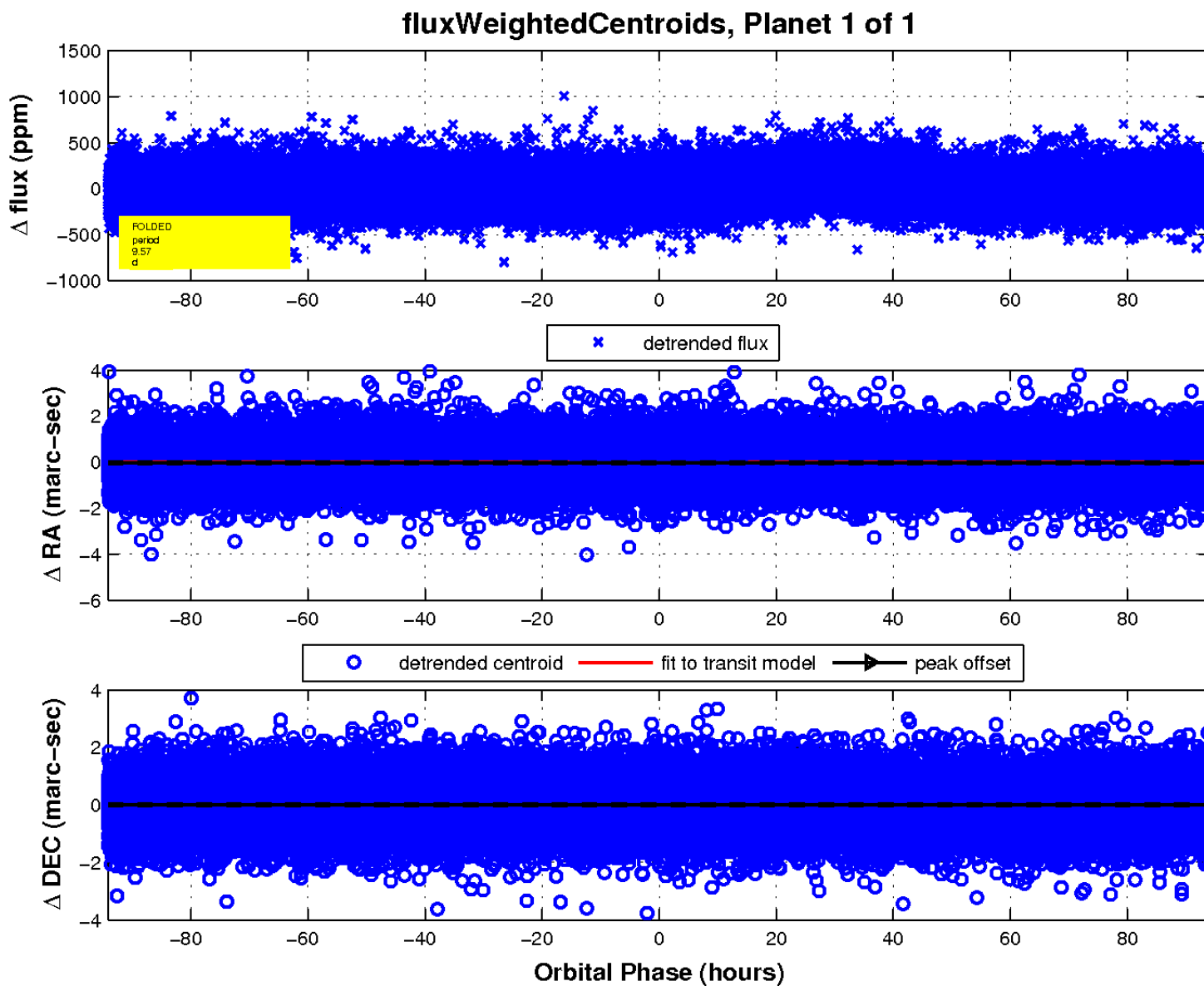
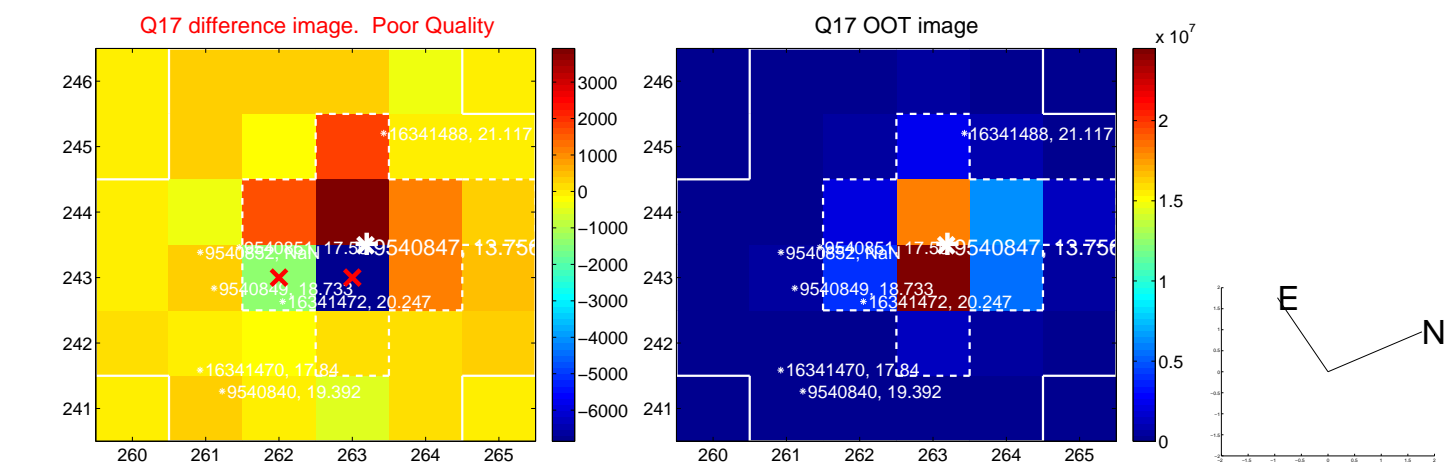
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

